

CHAPTER I

INTRODUCTION

In 2001, the U.S. Department of Interior, Bureau of Reclamation (Reclamation), the California Department of Water Resources (DWR), and Contra Costa Water District (CCWD) began appraisal-level studies of the potential to expand Los Vaquero Reservoir to address regional water quality and supply reliability needs. Expansion of Los Vaqueros was one of five potential surface water storage projects identified by the CALFED Bay-Delta Program (CALFED) as warranting further study. The appraisal-level studies indicated that expanding the reservoir by as much as 400,000 acre-feet was technically feasible and could provide water quality and supply reliability to agencies in the region, as well as providing potential benefits to fisheries sensitive to water management operations in the Sacramento-San Joaquin Delta (Delta). Reclamation was directed in Public Law 108-7 (Omnibus Appropriations Act of 2003) to conduct a feasibility-level investigation of the potential expansion of Los Vaqueros Reservoir. Initial results of the first phase of the Los Vaqueros Expansions Investigation (LVE) are described in this Initial Alternatives Information Report (IAIR).

CCWD, owner and operator of the reservoir, completed construction of the Los Vaqueros Project in 1997. The primary purpose of the project is to address seasonal water quality degradation associated with CCWD's Delta water supplies. CCWD stores water in Los Vaqueros Reservoir that is diverted from the Delta when water quality is favorable, for later release and blending when Delta water quality is degraded. The 100,000 acre-foot reservoir also provides important emergency supply storage and, as secondary benefits, recreation and flood control.

BACKGROUND

The desire to develop water resources for beneficial uses and to protect and improve ecosystem conditions throughout the State of California has affected the demand for water in the State. A significant portion of California's water resources flow through



Los Vaqueros Reservoir

or are diverted from the Delta, a unique and highly productive environment that is home to a diverse array of plants and animals. Past decades have given rise to increasing conflicts between management of Delta water resources to meet urban and agricultural demands, and sustaining or improving Delta ecosystem functions. As a result of these and other environmental conflicts in the State, several Delta fishery resources have been listed under the State and/or Federal Endangered Species Acts (ESA). Resulting regulatory actions taken to protect these species have constrained water supply management operations and exports in the Delta.

Water agencies in the San Francisco Bay Area (Bay Area) rely on a variety of local and imported water sources, including supplies from the Delta, to meet their growing demands. Aggressive conservation programs, recycling, surface and groundwater storage programs, and water transfers have helped these agencies manage the reliability and quality of their water supplies. However, Bay Area water agencies continue to face substantial cutbacks in water supplies during dry and critically dry years, and degradation in water quality during certain periods.

In recognition of environmental and water resource conflicts in the Delta, a consortium of State and Federal resources management agencies collaborated to create CALFED. The CALFED Programmatic Record of Decision (ROD), dated August 28, 2000, describes a long-term comprehensive plan to restore the ecological health of the San Francisco Bay/Delta (Bay-Delta) system and improve water management for all beneficial uses. The CALFED ROD describes various program elements that, in total, will increase water supply reliability, improve ecosystem health, improve water quality, and increase Delta levee stability.

The CALFED ROD recommended investigating five potential onstream and offstream surface water storage projects as part of its Storage Program element. One of the proposed storage projects involves expanding Los Vaqueros Reservoir. The CALFED ROD recognized that expanding the existing reservoir by as much as 400,000 acre-feet could contribute to improving the quality and reliability of Bay Area drinking water supplies delivered from the Delta.

Another program element described in the CALFED ROD is the Environmental Water Account (EWA), developed to help resolve one of the Bay-Delta's most fundamental conflicts: the competing needs of water management operations and the environment. The EWA facilitates changes to Central Valley Project (CVP) and State Water Project (SWP) operations, such as pumping curtailments in the south Delta to protect at-risk fisheries. The EWA also provides an institutional framework through which water managers can acquire, store, transfer, and release water strategically to respond to fishery and ecosystem needs in the Delta. To date, the short-term EWA Program has relied on transfer market acquisitions and short-term transfer agreements to secure water for actions in the Delta. It is expected that some form of the EWA will continue in the future with a primary focus on offsetting water delivery reductions resulting from regulatory actions that curtail Delta pumping to protect at-risk fish. However, a great deal of uncertainty exists regarding the cost of water for programs such as the EWA in the future.

The primary mission of the LVE, based on the problems, needs, and objectives identified and documented in this IAIR, is as follows:

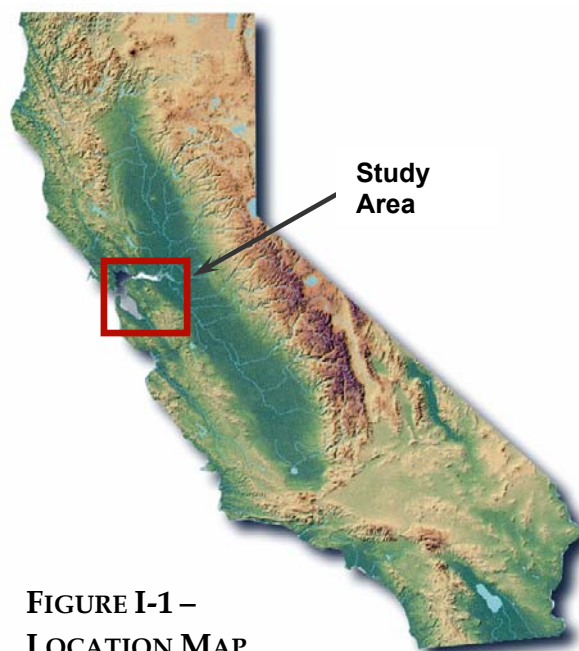
The purpose of the Los Vaqueros Expansion Investigation is to identify and evaluate opportunities to increase drought period water supply reliability for Bay Area water providers; provide a less-costly environmental water supply to facilitate EWA fish recovery actions in the Delta; and, to the extent possible through exploring these opportunities, improve the quality of water delivered to Bay Area water users.

The three objectives identified for the LVE, discussed later in this document, are as follows:

- *Increase water supply reliability for water providers within the study area, principally to help meet municipal and industrial water demands during drought periods, with a focus on enlarging Los Vaqueros Reservoir.*
- *Use an expanded Los Vaqueros Reservoir to develop replacement water supplies for the long-term Environmental Water Account, if the cost of water provided from an expanded reservoir is found to be less than the cost of water for continued implementation of that program.*
- *To the extent possible through pursuit of the water supply reliability and environmental water objectives, improve the quality of water deliveries to municipal and industrial customers in the study area.*

STUDY AREA LOCATION AND DESCRIPTION

Los Vaqueros Reservoir is located in the Kellogg Creek watershed of Contra Costa County, California. The reservoir lies in the foothills west of the Delta and east of the Bay Area, as illustrated in **Figure I-1**. The study area for the LVE, shown in **Plate 1**, includes the Los Vaqueros Reservoir watershed and associated facilities, the central and south Delta, and service areas of Bay Area water agencies that may be directly affected by the project. The central and south Delta is roughly bound by the San Joaquin River on the north and the boundaries of the legal Delta to the south (as established in Section 12220 of the California Water Code). Bay Area water agencies that could be directly affected by the project include CCWD, Alameda County Water Agency, Santa Clara Valley Water District, and Zone 7 Water Agency. Due to the potential influence on other programs and projects, an extended study area includes the service areas of other Bay Area water agencies and the Central Valley of California. Other Bay Area water agencies that may be indirectly affected by the project include East Bay Municipal Utility District and the San Francisco Public Utilities Commission.



**FIGURE I-1 –
LOCATION MAP**

STUDY AUTHORIZATION AND INFLUENCING LEGISLATION

Reclamation and DWR are the Federal and State agencies conducting the investigation, respectively. CCWD, as owner of the existing Los Vaqueros Reservoir, also has an integral role in the study, and has worked under contract to Reclamation and DWR to perform engineering studies and environmental review. The following sections describe Federal, State, and local

authorization and legislation pertinent to the LVE. These and other study milestones are shown in a study timeline in **Figure I-2**.

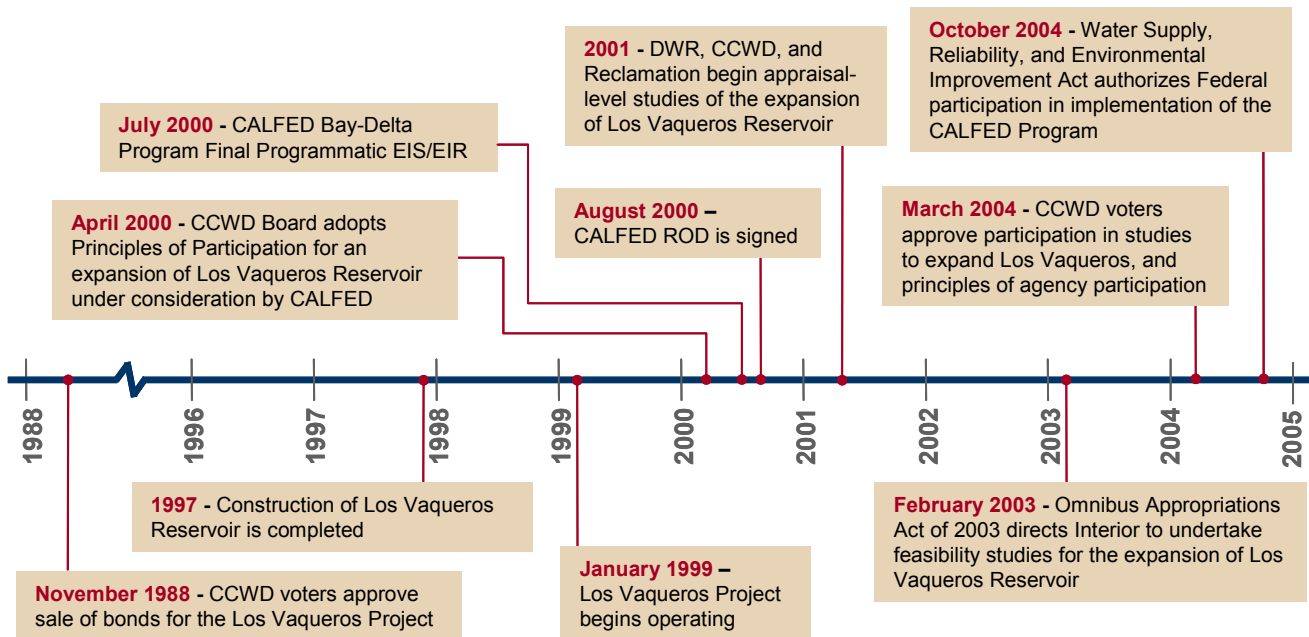


FIGURE I-2 – TIMELINE OF LEGISLATION AND OTHER STUDY MILESTONES

Federal

The Secretary of the Interior was authorized to undertake feasibility studies for enlarging Los Vaqueros Reservoir in February 2003 through the Omnibus Appropriations Act of 2003 (Public Law 108-7):

The Secretary of the Interior, in carrying out CALFED-related activities, may undertake feasibility studies for Sites Reservoir, Los Vaqueros Reservoir Enlargement, and Upper San Joaquin Storage projects. These storage studies should be pursued along with ongoing environmental and other projects in a balanced manner.

In October 2004, the Water Supply, Reliability, and Environmental Improvement Act (Public Law 108-361) authorized Federal agencies to participate in implementing the CALFED Program. Public Law 108-361 specifically authorizes the Secretary of the Interior to carry out planning and feasibility studies for enlarging Los Vaqueros Reservoir:

The Secretary of the Interior is authorized to carry out the activities described in paragraphs (1) through (10) of subsection (d), to the extent authorized under the reclamation laws, the Central Valley Project Improvement Act (title XXXIV of Public Law 102-575; 106 Stat. 4706), the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and other applicable law.

Paragraph (1)(A)(i) of the bill further defines authorized activities related to water storage as “planning and feasibility studies for projects to be pursued with project-specific study for enlargement of ...the Los Vaqueros Reservoir in Contra Costa County.”

State

Section 227 of the State of California Water Code provides authorization for DWR to participate in water resources investigations, as follows:

The department may investigate any natural situation available for reservoirs or reservoir systems for gathering and distributing flood or other water not under beneficial use in any stream, stream system, lake, or other body of water. The department may ascertain the feasibility of projects for such reservoirs or reservoir systems, the supply of water that may thereby be made available, and the extent and character of the areas that may be thereby irrigated. The department may estimate the cost of such projects.

Local

In response to identifying the potential to expand Los Vaqueros Reservoir in the CALFED ROD, the CCWD Board of Directors adopted a set of principles in April 2000 governing CCWD’s participation in an expansion project. On June 25, 2003, the CCWD Board of Directors formally adopted the conditions approved by the voters to guide CCWD’s participation in any expansion of Los Vaqueros Reservoir. On March 2, 2004, voters within the CCWD service area authorized the CCWD Board of Directors to participate with Federal and State agencies in feasibility studies and environmental review of an expanded Los Vaqueros Reservoir. CCWD’s conditions for participation in a project to expand Los Vaqueros Reservoir are discussed in **Chapters II** and **V**.

PURPOSE AND SCOPE OF DOCUMENT

This IAIR documents preliminary results and findings from the first phase of Federal planning studies for the LVE. The basic plan formulation process for Federal water resources studies and projects consists of the following steps:

- Inventory existing conditions and forecast likely without-project future conditions in the study area.
- Specify water resources and related problems and opportunities.
- Identify resource management measures and formulate concept plans.
- Evaluate and compare the effects of alternative plans.
- Select a plan for recommended implementation.

For the LVE, the above planning process was separated into three major phases: the Initial Plans Phase (documented within), Alternative Plans Phase, and Recommended Plan Phase. **Figure I-3** illustrates the relationship of the three phases, the major focus of each phase, and resulting product (report) for each phase.

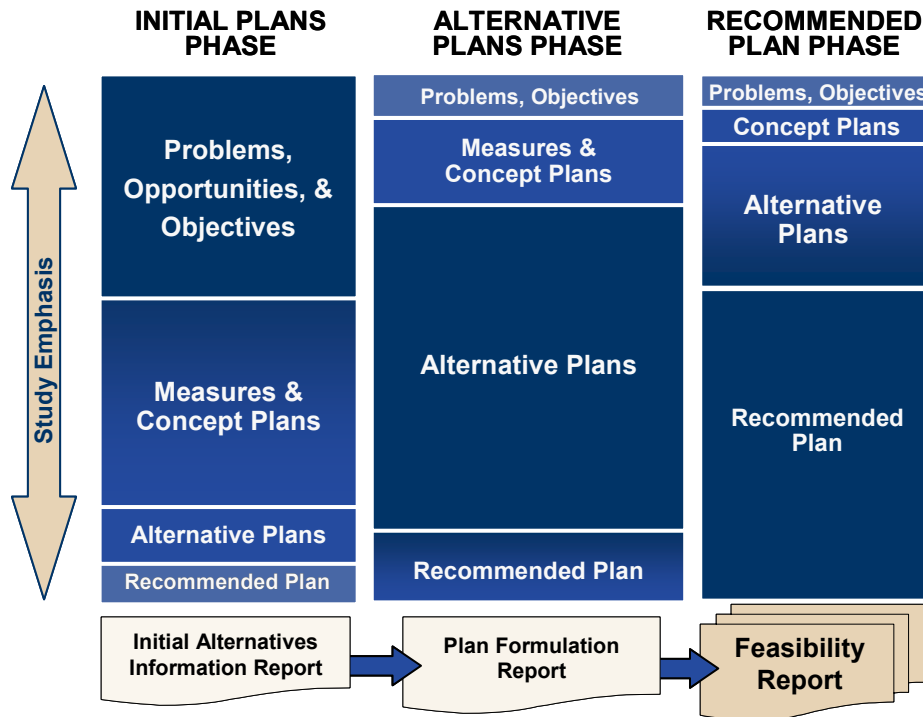


FIGURE I-3 – PLAN FORMULATION PROCESS

As shown in **Figure I-3**, the focus of the first phase is on defining problems, opportunities, and objectives, and identifying measures and concept plans to address these objectives. The focus advances through the Federal planning steps as the feasibility study progresses, with the last phase primarily focused on refining the recommended plan. Each phase concludes with a milestone document that describes the work that was performed, results, and conclusions to date. While these documents are drafted specifically to inform Federal decision-makers on subjects relevant to potential Federal participation in the project, they also may provide useful information to participating non-Federal agencies and stakeholders.

REPORT ORGANIZATION

This report comprises 13 chapters that describe the preliminary results and findings of the LVE:

- **Chapter I** provides background information about the LVE, the study area location, study authorization and defining legislation, and purpose and scope of the IAIR.
- **Chapter II** identifies studies, projects, and programs that may have a direct or indirect influence on the LVE.

- **Chapter III** describes existing and future without-project water resources and related conditions.
- **Chapter IV** identifies fundamental water resources problems and opportunities in the study area based on the conditions described in **Chapter III**.
- **Chapter V** describes the plan formulation process, defines planning objectives for the investigation, and explains planning constraints and criteria for the study. It also presents planning principles that will guide the formulation of alternative plans.
- **Chapter VI** identifies potential resource management measures (or actions) to address the planning objectives and highlights measures to be carried forward for further consideration.
- **Chapter VII** describes the formulation of a set of concept plans for further development in the feasibility study.
- **Chapter VIII** presents the evaluation and comparison of the concept plans, from which the most promising are identified as initial alternatives for further development in the next phase of the feasibility study.
- **Chapters IX through XII** include information on special topics, study management and public involvement, future issues and implementation factors, and major findings, respectively.
- **Chapter XIII** contains sources consulted in writing this report.

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